

Habitat.—Valley of Black Mts., N. C., taken by Mr. Wm. Beutenmüller on Aug. 23.

Type.—One male in excellent condition in Am. Mus. Nat. Hist., N. Y.

Differing from all known eastern species of the genus by the deep ochreous band crossing the fore wings on outer two-thirds.

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### Three new species of Acrididae (Orthoptera) from California.

BY JAMES A. G. REHN.

The following new forms were contained in a series of Californian Orthoptera submitted to me by Prof. C. F. Baker.

#### *Hippiscus sierra* n. sp.

Type:—♀; Mt. Tyndall, elevation 12,000 feet, Tulare Co., California. (C. F. Baker.) [Acad. Nat. Sci., Phila.]

Closely allied to *Hippiscus calthulus* Saussure from Nevada and *croceus* Scudder from Idaho. The relationship to the former is not as close as to the latter, from which *sierra* differs in the intercalary vein being placed nearer the median than the ulnar vein, in the fusion of the axillary with the anal vein, in the much narrower, shorter and weaker fuscous band of the wing, and in the reddish instead of citron disk of the latter. The structure of the pronotum as described in *croceus* agrees very closely with the new form, which may be separated from *calthulus* by the much smaller size, the broader band of the wing, the color of the internal face of the caudal femora and that of the caudal tibiae.

Size small (for the genus); form robust. Head with the occiput not elevated; fastigium moderately declivent, about as wide as long; the cephalic width about half the median, due to the distinct subtrigonal lateral foveolae; caudal boundary of the fastigium marked by an irregular transverse carina; median carina distinct, but not high on the occiput and fastigium; interspace between the eyes about twice the width of the dorsal portion of the frontal costa; a pair of depressions are placed between the fastigium and frontal costa, which latter is narrow dorsad, expanding regularly ventrad except for a slight constriction ventrad of the ocellus, a slightly depressed area present around the ocellus but otherwise only irregularly punctate; eyes hardly prominent, subovoid in outline,

about equal to the infra-ocular sulcus in length; antennae slightly longer than the head and pronotum together, slightly depressed, the distal section not curled. Pronotum with the disk considerably flattened, the surface of the disk with irregular, usually linear rugosities; cephalic margin very broadly obtuse-angulate, caudal margin slightly acute-angulate, lateral margins of the metazona angulate but not carinate, slightly expanding caudad, metazona almost twice as long as the prozona; lateral lobes of the pronotum distinctly deeper than long, ventro-cephalic angle distinct, ventro-caudal angle broadly rounded, sulci deeply impressed. Tegmina reaching caudad of the apex of the abdomen by nearly the length of the pronotum; costal margin arcuate distad, apex rounded; mediastine vein strong, little curved; intercalary vein as a whole nearer the median than the anterior ulnar vein. Wings with the greatest width contained about one and two-thirds times in the length, costal margin slightly sigmoid, apex rounded, the axillary field arcuate in the margin; discoidal vein with three rami. Interspace between the mesosternal lobes nearly twice as broad as deep; interspace between the metasternal lobes slightly narrower than the interspace between the mesosternal lobes, but somewhat shallower and as distinctly transverse. Cephalic and median limbs slender. Caudal femora moderately expanded and with carinae well developed as usual in *Hippiscus*, the ventral carina moderately but not greatly expanded mesad, the pattern of the pagina deeply impressed; caudal tibiae armed with eight to ten spines on the lateral and internal margins.

General colors mottled bistre and burnt umber. Head variegated with fine lines and threads of buffy dorsad and with a scrumbling of ecru drab ventrad; eyes tawny-olive; antennae of the general colors, darker distad. Pronotum with a considerable amount of buffy mottling on the prozona, on the lateral lobes the same portion has a median subquadrate dark patch, relieved ventrad by a pale line, metazona washed with dull maroon purple. Tegmina with a great number of small subquadrate blotches, which are congregated proximad and about mesad to form two very poorly defined bands. Wings with the disk pale geranium red, the proximal two thirds of the anterior field bistre, the transverse band rather weak and narrow, continued around to the caudal margin but not reaching the proximal one, greatest width of the band less than a sixth the length of the wing; apical third hyaline except for a slight clouding in the extreme apex. Caudal femora wood brown, with three transverse and oblique bands of bistre, the bands being distinct dorsad, but weak laterad and ventrad, the proximal one only present on the dorsal and part of the ventral face, genicular region suffused; caudal tibiae greenish yellow, the tips of the spines black.

## MEASUREMENTS.

Length of body . . . . .	29.	mm.
Length of pronotum . . . . .	6.5	"
Greatest caudal width of disk of pronotum . . . . .	5.	"

Length of tegmen . . . . .	27.5 mm.
Greatest width of tegmen . . . . .	6. "
Greatest width of wing . . . . .	14. "
Length of caudal femur . . . . .	14.2 "

The type is the only specimen of the species seen by the author.

**Bradynotes excelsa** n. sp.

Types:—♂ and ♀; Mt. Tyndall, Tulare Co., California, elevation 12,000 feet. (C. F. Baker.) [A. N. S., Phila.]

Allied to *B. referta* Scudder from Logan Co., Idaho, and mountains near Lake Tahoe, California, but differing in the narrower interspace between the eyes, in the frontal costa being hardly wider dorsad than the basal antennal joint; in the metazona being twice as long as the prozona, in the length of the pronotum being contained three times in the length of the caudal femora and in the absence of an abdominal carina.

Size small; surface sub glabrous. Head with the occiput rounded; interspace between the eyes no wider than the inter-antennal width of the frontal costa (♂) or about half again the width of the same (♀); fastigium very strongly declivent, very broadly and shallowly sulcate in both sexes, the sulcation extending caudad between the eyes; frontal costa subequal, no wider (♂) or slightly wider (♀) than the proximal antennal joint, undefined ventrad of the ocellus, biseriate-punctate dorsad, not sulcate; eyes moderately prominent in the male, less so in the female, short ovate in outline in both sexes, cephalic margin more flattened in the female than in the male, in length equal to (♀) or slightly longer than (♂) the infra-ocular sulcus; antennae about equal to the length of the head and pronotum in the male. Pronotum rounded; cephalic margin truncate with a very slight median emargination, caudal margin very broadly and shallowly emarginate, lateral angles rounded and no carina present; median carina indicated by the faintest possible trace on the cephalic section of the prozona and on the metazona; transverse sulci impressed, particularly the principal (caudal) sulcus; prozona in both sexes over twice the length of the metazona; lateral lobes slightly longer than deep; ventral margin rounded with a very slight cephalic sinuation. Mesonotum with the caudal margin slightly arcuate in the male, very slightly emarginate mesad in the female; metanotum truncate in the male, distinctly emarginate mesad in the female. Prosternal spine very short, thick and blunt; interspace between the mesosternal lobes over half again as broad as long (♂) or twice as broad as long (♀). Tegmina and wings absent in both sexes. Abdomen somewhat compressed, not carinate, apex moderately elevated and slightly recurved in the male; furcula of the male extremely small, divergent; supra-anal

plate of the male, with the margins regularly but not greatly converging in the proximal two-thirds, distad of which they approach one another much more decidedly, apex rounded, median paired carinae regularly converging from the base; cerci simple, tapering in the proximal three-fourths, subequal in the distal fourth and slightly curved ventrad in that section, apex blunt; subgenital plate very broad, the margin not passing through the apex which is produced, trigonal, blunt and somewhat flattened dorsad, when viewed laterad slightly curved dorsad. Cephalic and median femora much more robust in the male than in the female; caudal femora moderately slender; caudal tibiae with eight spines on lateral margin.

General color vandyke brown dorsad, cinnamon ( $\sigma^7$ ) or wood brown ( $\varphi$ ) ventrad, the male being wholly suffused with a rufescent coloring. Head with distinct blackish post-ocular bars as well as a pair of blackish occipital maculations; eyes burnt umber ( $\sigma^7$ ) or drab ( $\varphi$ ); antennae burnt sienna ( $\sigma^7$ ) or wood brown ( $\varphi$ ). Pronotum with the post-ocular bars continued across its whole length and reaching to the caudo-lateral angle of the pleura, in the female two spots of ecru drab on each side being enclosed in the blackish bar; disk of the metazona lighter in color than the prozona in both sexes. Mesonotum and metanotum dark mesad, pale laterad; pleura almost uniform, very dark brown, this being a continuation of the pronotal bars. Caudal femora with two rather broad dark brown transverse bars which follow the lines of the paginae in crossing the lateral face, being thus < shaped, genicular region very dark, internal face and ventral sulcus scarlet vermilion except for a narrow pale pregenicular annulus; caudal tibiae ochraceous, infuscate proximad, spines and spurs tipped with black.

#### MEASUREMENTS.

	$\sigma^7$	$\varphi$
Length of body . . . . .	16.5 mm.	18.8 mm.
Length of pronotum . . . . .	2.8 "	3. "
Greatest width of disk of pronotum . . . . .	2.8 "	3.6 "
Length of caudal femur . . . . .	9.2 "	10.5 "

A paratypic male has been examined in addition to the types.

#### *Oedaleonotus truncatus* n. sp.

Types:— $\sigma$  and  $\varphi$ ; Mountains near Claremont, Los Angeles Co., California. (C. F. Baker.) [A. N. S., Phila.]

A member of this genus but not at all closely related to *Oc. enigma*, the only previously known species of the genus. The character which immediately strikes one in both sexes of the species is the truncate caudal margin of the pronotum and

the greater longitudinal arching of the same. In the male the more rounded eye, the narrower interocular space and frontal costa, more prominent lateral angles of the pronotum and the longer, more attenuate cerci will separate the new form. In the female the caudal expansion of the pronotum, the more prominent lateral angles of the pronotum and the longer lateral lobes, as well as the longer and somewhat slenderer caudal femora, will distinguish *truncatus* from *enigma*.

Size rather small; form moderately compressed and slender for the genus. Head with the occiput arched and slightly, but distinctly, elevated above the general level of the disk of the pronotum; interspace between the eyes not (♂) or very slightly (♀) wider than the inter-antennal portion of the frontal costa; fastigium moderately declivent, distinctly sulcate in both sexes, though more deeply and with sharper lateral margins in the male; when viewed laterad the fastigium rounds into the line of the face, which is slightly produced between the antennae; frontal costa at the junction with the fastigium hardly wider than the proximal joint of the antennae, regularly expanding ventrad to the ocellus, not marked ventrad of this, slightly depressed around the ocellus, not sulcate but biseriata-punctate; eyes ovate, more flattened cephalad in the female than in the male, in both sexes very distinctly longer than the infra-ocular sulcus, when viewed from the dorsum the eyes are moderately prominent in the male; antennae almost equalling the head and pronotum in length in the female. Pronotum subdeplanate dorsad in the male, slightly tectate in the female; cephalic margin of the disk subtruncate, caudal margin subtruncate with a very slight median emargination, lateral margins angulate but not carinate, the angle somewhat rounded on the metazona of the female; median carina distinct in both sexes, evanescent between the sulci, weaker in the female than in the male, prozona half again as long as the metazona in the male, slightly less than half again as long in the female; transverse sulci more marked in the male than in the female; disk of the pronotum of a greater width caudad in the female than proportionately in the male; when viewed laterad the dorsal outline of the prozona is slightly but distinctly arcuate; lateral lobes distinctly longer than deep, the cephalic margin gently arcuate, the caudal slightly sinuate, both converging, ventral margin very broadly and bluntly angulate; metazona on dorsum and lateral lobes closely and sharply punctate. Tegmina abbreviate; lateral, not attingent dorsad, nearly twice as long as broad in the male, half again as long as broad in the female, apex obliquely subtruncate. Abdomen tectate in both sexes, slightly (♀) or strongly (♂) compressed, apex recurved in the male; form of the furcula cannot be ascertained on account of the strongly recurved apex; cerci rather broad, subequal in the proximal third, tapering regularly thence to the narrow but blunt apex, which also has a slight curve toward the

median line; supra-anal plate trigonal, slightly longer than wide, apex rather blunt; subgenital plate broad, the apical margin U-shaped, a slightly elevated rugose area is situated cephalad of the margin proper. Prosternal spine conical, slightly depressed. Interspace between the mesosternal lobes slightly longer than broad in the male, subquadrate in the female; interspace between the metasternal lobes small in the female, the lobes subcontiguous in the male. Cephalic and median femora considerably inflated and bowed in the male. Caudal femora reaching beyond the apex of the abdomen in both sexes, moderately inflated, the greatest width contained more than three times in length; caudal tibiae with nine spines on the lateral margins.

General color of the male clay color marked with clove brown. Eyes prout's brown; postocular bars continued across the dorsal section of the lateral lobes of the pronotum, deep and irregularly delimited ventrad on the prozona, very narrow and sharply defined on the metazona, the disk of the pronotum also slightly infusate mesad. Pleura clove brown; the mesosternum and a line on the carina of the metapleura of the general color. Tegmina isabella color margined ventro-proximad with clove brown. Abdomen in the proximal half strongly washed laterad with clove brown. Caudal femora with the lateral and internal faces with three blotches of clove brown, the genicular arches weakly washed with the same color, ventral sulcus scarlet vermilion; caudal tibiae verditer blue, spines cream-buff tipped with black; tarsi soiled buff.

Female with the general color bistre, isabella color on the face and venter, postocular bar narrow and not sharply defined; caudal femora with no markings, but the ventral sulcus similar to that of the male only somewhat duller; caudal tibiae dull glaucous-blue, irregularly and rather minutely mottled with brown.

MEASUREMENTS.		♂	♀
Length of body . . . . .		17.2 mm.	21.5 mm.
Length of pronotum . . . . .		4.5 "	5.5 "
Greatest caudal width of disk of pronotum . . . . .		3. "	4.3 "
Length of tegmen . . . . .		3.4 "	3.1 "
Greatest width of tegmen . . . . .		1.8 "	2.6 "
Length of caudal femur . . . . .		11.5 "	13.2 "

In addition to the types a single paratypic female has been examined. This specimen is slightly larger than the female type, of a lighter general color, the yellow tint being more apparent, and with the blue of the caudal tibiae much deeper. The tegmina are also slightly shorter, but the differences are of interest only to show that the species varies in size, somewhat in minor structural characters like the proportion of the tegmina and also in color.